

Claims

1. A fuel cell assembly comprising:  
a plurality of PEM fuel cells connected electrically in series,  
each of said fuel cells having substantially the same planforms;  
a plurality of cooler plates interposed between groups of said  
5 fuel cells;  
each of said cooler plates having an internal coolant flow  
channel in fluid communication with an inlet opening and an outlet  
opening disposed in one or more projections of said cooler plate, said  
projections extending outwardly from said planforms of the fuel cells;  
10 and  
a plurality of seal assemblies, each disposed between  
corresponding projections of proximate cooler plates and having a  
fluid passageway in fluid communication with respective ones of said  
inlet and outlet openings to form inlet and outlet manifolds to permit  
15 coolant flow between cooler plates.
2. A fuel cell assembly as in claim 1 wherein:  
each of said seal assemblies includes a closed cell rubber  
gasket.
3. A fuel cell assembly as in claim 1 wherein:  
each of said seal assemblies includes a solid bushing bonded  
to a gasket.
4. A fuel cell assembly as in claim 3 wherein:  
each of said bushings is a glass reinforced plastic.

5. A fuel cell assembly as in claim 3 wherein:  
each of said bushings is a creep resistant plastic.

6. A fuel cell assembly as in claim 1 wherein:  
each of said cooler plates includes a flange for attachment of  
the cooler plate to said fuel cell assembly.

7. A fuel assembly as in claim 1 wherein:  
said projections extend sufficiently outward from said  
planforms to provide an isolation gap between said manifold and said  
planform.

8. A fuel assembly as in claim 7 wherein:  
said isolation gap comprises an air turn manifold.